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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/500,387	02/08/2000	Ted Chongpi Lee		2538

26291 7590 04/24/2003

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EXAMINER

VOLPER, THOMAS E

ART UNIT	PAPER NUMBER
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2697

DATE MAILED: 04/24/2003

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Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/500,387

Applicant(s)

LEE, TED CHONGPI

Examiner

Thomas Volper

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-17 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

### Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Claim Objections*

1. Claims 9 and 10 are objected to because of the following informalities: Claim 9 depends upon claim 14, but appears before claim 14. Claim 10 depends on claim 15, but appears before claim 15. In addition, claim 10 is exactly the same as claim 16. These claims should be renumbered or rewritten. Appropriate correction is required.

### *Claim Rejections - 35 USC § 103*

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-3, 11 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Heuer (US 6,205,121) in view of Schmidt et al. (US 6,205,154) and Kremer (US 5,390,164).

- Regarding claims 1 and 11, Heuer discloses a method of establishing logical connections in a synchronous digital communications network (SDH or SONET). Figures 2a and 2b shows network elements CC1-CC3 of a synchronous digital communications network that are logically connected by either optical fibers or coaxial cables. These elements, which are construed to represent the digital cross-connect elements of the present invention, are each connected to a central management system (TMN). The TMN is representative of the DCS EMS of the present invention. Heuer discloses a ring network with network elements in Figure 1,

however, Heuer fails to expressly disclose that the cross-connect elements of Figures 2a and 2b are connected to a ring network and that the ring network includes a plurality of ADMs. Heuer also fails to disclose that one of the cross-connect devices is coupled to one of the ADMs on the ring network by a digital link. Schmidt et al. discloses a SONET network (10) includes an Element Management System (EMS) in communication with a plurality of add/drop multiplexers (ADM), wherein an ADM is located where traffic is entered on and off the network (col. 4, lines 46-54; see also Fig. 1). Kremer discloses a system of bi-directional line switched rings interconnected by digital cross-connect systems (Figure 1), whereby the rings are composed of ring nodes that comprise add/drop multiplexers (ADM) (col. 4, lines 67-68). Kremer discloses that in one example transmission of digital signals in the SONET digital signal format is assumed (col. 4, lines 22-23). This implies that the connections between ring nodes and DCSs, ring node (112) and DCS (132) for example, are digital links. At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to use a SONET ring including ADMs, as in Schmidt, as the interconnection between cross-connect elements in the invention of Heuer, whereby the cross-connect elements connected to the SONET ring by digital links to ADMs, in the same fashion demonstrated by Kremer. One of ordinary skill in the art would have been motivated to first, use the ring structure because it provides for protection capabilities, and secondly, connect the cross-connect elements to the ring at the point of an ADM in order to easily drop traffic off one ring and switch it onto another via a digital cross-connect element.

- Regarding claim 2, Heuer discloses that each of the cross-connect elements are connected to the central management system via an interface by which they can receive

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instructions (col. 4, lines 30-34). Schmidt et al. discloses that the EMS has communication links with each ADM (col. 4, lines 51-52). These interfaces and communication links represent the data communication network of the present invention.

- Regarding claims 3 and 12, as stated in the paragraph regarding claims 1 and 11, Kremer discloses that in one example, transmission of digital signals in the SONET digital signal format is assumed (col. 4, lines 22-23). This implies that the connections between ring nodes and DCSs, ring node (112) and DCS (132) for example, are digital links. Kremer does not disclose that the link is a STS-1 or STS-3 digital link. It is well known in the art that SONET signals are carried in STS-N links. At the time the invention was made it would have been obvious to use any level of an STS-N link. One of ordinary skill in the art would have been motivated to do this in order to accommodate traffic of different rates.

4. Claims 4-10 and 13-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Heuer (US 6,205,121) in view of Schmidt et al. (US 6,205,154) and Kremer (US 5,390,164) as applied to claims 1-3, 11 and 12 above, and further in view of Lee et al. (US 5,799,001).

- Regarding claims 4, 6, 8 and 9 the teaching provided by Heuer in view of Schmidt et al. and Kremer meets all of the limitations of claims 4, 6, 8 and 9, except that the ADM is included within the DCS. Lee et al. provides a system wherein two bi-directional line switched rings are connected to a digital cross-connection module that includes within an add/drop function (see Figure 4). At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to use this configuration of a digital cross-connection device in the system provided by the teaching of Heuer in view of Schmidt et al. and Kremer. One of ordinary

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skill in the art would have been motivated to do this in order to eliminate an ADM, thus simplifying the system by reducing hardware.

- Regarding claims 5, 7 and 10, see paragraph regarding claims 3 and 12 above.

- Regarding claims 13-15 and 17, while the teaching provided by the obviousness rejection of claims 4, 6, 8 and 9 provides for both homogeneous structures, i.e. a SONET ring decoupled from DCS elements via digital links, and non-homogeneous structures, i.e. a hybrid SONET ring whereby ADM capability is incorporated within the DCS element, that teaching does not disclose managing the system by adapting a hybrid structure back to homogeneous structures. The management system provided in Heuer discloses switching logical connections between network elements in accordance with an optimized configuration (col. 2, lines 38-55). At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to use this optimization feature to adapt connections from hybrid to homogeneous structures. One of ordinary skill in the art would have been motivated to do this in order to provide scalability for a growing network.

- Regarding claim 16, see paragraph regarding claims 3 and 12 above.

### *Conclusion*


5. Any inquiry concerning this communication, or earlier communications from the examiner should be directed to Thomas Volper whose telephone number is 703-305-8405 and fax number is 703-746-9467. The examiner can normally be reached between 8:30am and 6:00pm M-F.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ricky Ngo, can be reached at 703-305-4798. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-4750.

tev

April 18, 2003

  
RICKY NGO  
PRIMARY EXAMINER